

# Notice of Allowability

Application No.

10/091,194

Examiner

Alonzo Chambliss

Applicant(s)

NADD ET AL.

Art Unit

2827

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment A filed on 8/8/03.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☒ to Paper No. 4.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |  |   |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____  | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other _____  |

Alonzo Chambliss  
Patent Examiner  
Art Unit: 2827

### **DETAILED ACTION**

1. Amendment A filed on 8/8/03 has been fully considered and made of record in Paper No. 5.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
3. The application has been amended as follow:

#### **IN SPECIFICATION:**

The title has been changed to " H-BRIDGE DRIVE UTILIZING A PAIR OF HIGH AND LOW SIDE MOSFET'S IN A COMMON INSULATION HOUSING ".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee.

### **Allowable Subject Matter**

4. The following is a statement of reasons for the indication of allowance subject matter: the prior art of record does not teach or suggest the combination of a H-bridge driver having first and second high side MOSFET's, wherein the first and second high side MOSFET's are mounted on first and second low side MOSFET's respectively. A

control IC controlling the high side and low side MOSFET's, wherein the control IC has input terminals connected to receive input control signals from an exterior bridge control circuit and has output terminals connected to the control electrodes of the high side MOSFET's. A support for supporting the high side and low side MOSFET's. A common insulation housing for enclosing the first and second high side MOSFET's and the IC, wherein the first and second high side MOSFET has power switches having output terminals. The output terminals of the power switch communicating an output signal for the control IC shutdown the H-bridge when the switch current or MOSFET die temperature exceeds a threshold value in claim 1.

A H-bridge driver having first and second high side MOSFET's, wherein the first and second high side MOSFET's are mounted on first and second low side MOSFET's respectively. A control IC controlling the high side and low side MOSFET's, wherein the control IC has input terminals connected to receive input control signals from an exterior bridge control circuit and has output terminals connected to the control electrodes of the high side MOSFET's. A support for supporting the high side and low side MOSFET's. A common insulation housing for enclosing the first and second high side MOSFET's and the IC. Connection pins extending from the package, wherein the connection pins include IN1 and IN2 pins coupled to the control electrodes of the first and second high MOSFET's. A Vcc pin and a GND pin connected to the power input terminals with a M1 and M2 pin connected to the first and second nodes at the output bridge terminals in claim 2.

A H-bridge driver having first and second high side MOSFET's, wherein the first and second high side MOSFET's are mounted on first and second low side MOSFET's respectively. A control IC controlling the high side and low side MOSFET's, wherein the control IC has input terminals connected to receive input control signals from an exterior bridge control circuit and has output terminals connected to the control electrodes of the high side MOSFET's. A support for supporting the high side and low side MOSFET's. A common insulation housing for enclosing the first and second high side MOSFET's and the IC. The low side MOSFET's both being normally ON in claim 3.

A H-bridge driver having first and second high side MOSFET's, wherein the first and second high side MOSFET's are mounted on first and second low side MOSFET's respectively. A control IC controlling the high side and low side MOSFET's, wherein the control IC has input terminals connected to receive input control signals from an exterior bridge control circuit and has output terminals connected to the control electrodes of the high side MOSFET's. A support for supporting the high side and low side MOSFET's. A common insulation housing for enclosing the first and second high side MOSFET's and the IC. The control IC includes a PWM generator for applying a soft start PWM signal to the control electrodes of the low side MOSFET's in claim 5.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (703) 306-9143. The fax phone number for the Group is (703) 308-772 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-7956.

AC/November 15, 2003

  
Alonzo Chambliss  
Patent Examiner  
Art Unit 2827